

OPTICALLY TRANSPARENT NANOCOMPOSITE MATERIALS

ABSTRACT

5 Optically transparent composite materials in which solid solution inorganic
nanoparticles are dispersed in a host matrix inert thereto, wherein the nanoparticles are doped
with one or more active ions at a level up to about 60 mole% and consist of particles having a
dispersed particle size between about 1 and about 100 nm, and the composite material with
the nanoparticles dispersed therein is optically transparent to wavelengths at which excitation,
10 fluorescence or luminescence of the active ions occur. Luminescent devices incorporating the
composite materials are also disclosed.